

GINETSINSKIY, A.G. [deceased]; ZAKS, M.G.; IOFFE, V.I.; KRESTINSKAYA, T.V.;
SOKOLOVA, M.M.; KHAY, L.M.

Change in the hyaluronidase and hyaluronic acid system in the
rabbit kidney in experimental interstitial nephritis. Biul. eksp.
biol. i med. 57 no.3:30-34 Mr '64.

(MIRA 17:11)

1. Institut evolyutsionnoy fiziologii (dir. - chlen-korrespondent
AN SSSR G.M. Kreps) AN SSSR i Institut eksperimental'noy meditsiny
(dir. - deystvitel'nyy chlen AMN SSSR prof. D.A. Biryukov) AMN
SSSR, Leningrad. 2. Chlen-korrespondent AMN SSSR (for Ginetsinskiy).

GINETSINSKIY, Aleksandr Grigor'yevich (1895-1962); ZAKS, M.G.,
otv. red.

[Physiological mechanisms of water-salt balance] Fizio-
logicheskie mekhanizmy vodno-solevogo ravnovesiya I. 1964
Moskva, Nauka, 1964. 426 p. (MIRA 19:1)

ZAKS, M.G.; SOKOLOVA, M.M.

Mechanisms of the adaptation of some litoral organisms to desalination of the environment. Zhur. evol. biokhim. i fiziol. 1 no. 6:538-542 N-D '65 (MIRA 19:1)

1. Laboratoriya razvitiya vydelitel'noy funktsii Instituta evolyutsionnoy fiziologii i biokhimii imeni I.M. Sechenova AN SSSR, Leningrad. Submitted April 3, 1964.

ZAKS, M.G.; MAZNBITS, I.A.

Paradoxal reaction of the breast to oxytocin in persistent lactation. Bhul. eksp. biol. i med. 59 no.6:53-55 Ja '65.

(MIRA 18:6)

1. Institut evolyutsionnoy fiziologii i biokhimii imeni Sechenova AN SSSR i Institut akusherstva i ginekologii AMN SSSR, Leningrad.

ZAKS, M.G.; MCHENETS, I.I.

Development of capacitive function and the lactation reflex
in the course of lactation in women. Fiziol. zhur. 49 no.9:
1084-1088 S '65. (UDCA 17412)

1. Institut evolyutsionnoy fiziologii imeni I.M. Sechenova
AN SSSR i Institut akusherstva i ginekologii AN SSSR, Leningrad.

ZAKS, M.G.; SOKOLOVA, M.M.

Effect of the antidiuretic hormone under conditions of osmotic diuresis. Fiziol. zhur. 49 no.5:532-534 My '63.

(MIRA 17:11)

1. From the Laboratory for Research on Evolution of Excretory Function Sechenov Institute of Evolutionary Physiology, Leningrad.

POLENOV, A.L., otv. red.; GERBIL'SKIY, N.L., otv. red.; ALESHIN, B.V., red.; BARANNIKOVA, I.A., red.; ZAKS, M.G., red.; YAKOVLEVA, I.V., red.

[Neurosecretory elements and their significance in the body] Neurosekretornye elementy i ikh znachenie v organizme. Moskva, Nauka, 1964. 238 p. (MIRA 17:11)

1. Vsesoyuznyy simpozium po problemam neyrosekretsii, Leningrad, 1961. 2. Leningradskiy gosudarstvennyy universitet (for Gerbil'skiy, Barannikova). 3. Institut tsitologii AN SSSR, Leningrad (for Polenov). 4. Khar'kovskiy meditsinskiy institut i Ukrainskiy institut eksperimental'noy endokrinologii, Khar'kov (for Aleshin).

ZAKE, M.G.; KRESTINSKAYA, T.V.; SOKOLOVA, M.M.

Effect of an antidiuretic hormone in hypopotassemia in rats. *Fiziol.*
zhur. 50 no.12:1489-1495 D '64. (MIRA 18:9)

1. Institut evolyutsionnoy fiziologii i biokhimii imeni I.M.
Sechenova AN SSSR, Leningrad.

ZAKS, M.G.; NATOCHIN, Yu.V.; SOKOLOVA, M.M.; TANASIYCHUK, O.F.; TVERSKOY, G.B.

Transport of sodium and potassium in the secretion of milk.
Fiziol.zhur. 51 no.4:513-519 Ap '65. (MIRA 18:6)

1. Institut evolyutsionnoy fiziologii i biokhimii imeni Sechenova
AN SSSR i Institut fiziologii imeni Pavlova AN SSSR, Leningrad.

LAPIDUS, Sh.I., kand. tekhn. nauk; ZAKS, M.I., inzh.

Design of welding transformers with magnetic shunt and partial
spread of the winding. Elektrotehnika 35 no.11:49-52 N '64.

(MIRA 18:6)

88220

S/110/60/000/010/007/014
E194/E455

1.5400

AUTHORS: D'yachkov, B.A., Candidate of Technical Sciences,
Zaks, M.I., Engineer and Ryvkin, A.L., Engineer

TITLE: A Universal Welding Rectifier With a Wide Range of
Control of Voltage and Current

PERIODICAL: Vestnik elektropromyshlennosti, 1960, No.10, pp.36-41

TEXT: The main technical requirements applicable to supply
sources for automatic welding in inert gas are formulated: the
volt-ampere characteristics must be flat in the working range;
smooth control of output voltage under load must be possible;
the output voltage must be automatically stabilized against load
variations and input voltage variations; the no-load voltage
must be high enough to strike an arc reliably and the dynamic
characteristics must be satisfactory. It is also generally
desirable that the supply should be able to provide a family of
drooping characteristics for manual arc welding. Several methods
of obtaining flat volt-ampere characteristics are considered and

Card 1/4

88220

S/110/60/000/010/007/014
E194/E455

A Universal Welding Rectifier With a Wide Range of Control of Voltage and Current

dismissed in turn because of various defects. A universal supply having either level or drooping volt-ampere characteristics can be obtained from a static supply source consisting of a step-down three-phase transformer, a variable inductance and a rectifier unit. The inductance is in series with the high- or low-voltage side of the transformer and the load is supplied through the rectifier. This gives a family of naturally drooping external characteristics, each curve corresponding to a certain value of inductance. Flat volt-ampere characteristics are obtained by automatically altering the inductance of the power circuit with the load. The principles underlying this idea are explained. The most suitable form of variable inductance is a saturating choke which can be used to provide flat external characteristics by alteration in the inductance of the choke. A schematic circuit diagram of the equipment is given and explained. If it is necessary to improve the dynamic characteristics of the equipment, a power magnetic amplifier of suitable design may be used as a variable inductance. Card 2/4

88220

S/110/60/000/010/007/014
E194/E455

A Universal Welding Rectifier With a Wide Range of Control of Voltage and Current

There is a circuit diagram of a 300 A experimental equipment with this feature. By throwing a switch, suitable flat characteristics are obtained. The natural drooping external characteristics are plotted. The technical and economic characteristics of welding rectifiers built according to this circuit depend upon the desired range of control of stabilized voltage and on the limits of current control. If it is necessary to control voltage and current over a wide range it is best to have two ranges of control by altering the no-load voltage of the equipment. Technical data of prototype equipment are given and, for example, the rated voltage of 30 V may be altered from 17 to 34 V and the welding current from 50 to 320 A. The prototype welding set was of good performance with both automatic and manual welding. The set is a little larger and less efficient than previous sets but this is compensated by its universality. The weight could be appreciably reduced if the control range were not so wide. There are

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Card 3/4

88220

S/110/60/000/010/007/014
E194/E455

A Universal Welding Rectifier With a Wide Range of Control of
Voltage and Current

7 figures and 1 table.

SUBMITTED: January 11, 1960

Card 4/4

S/125/61/000/006/009/010
D040/D112

AUTHORS: D'yachkov, B. A., Zaks, M. I., Ryvkin, A. L.

TITLE: Welding rectifier with elastive and falling characteristics

PERIODICAL: Avtomaticheskaya svarka, no. 6, 1961, 63-72

TEXT: VNIIESO has developed a new **BCy** (VSU) type welding rectifier suitable for automatic gas-shielded as well as for manual arc welding. The first VSU-300 and VSU-500 units have been completed, and production is planned to start during 1961. The circuit diagram (Fig. 1) and photograph (Fig. 10) (with removed casing) of the VSU-300 are given, and its operation is described. The VSU represents an improvement, for the existing Soviet rectifiers do not adjust the work voltage smoothly under load and work with other than elastive characteristics. The VSU includes special saturation chokes. Its universal, i.e. both elastive and steep falling characteristics are obtained from a feed source consisting of a step-down transformer, saturation choke and semiconductor rectifier unit. The output voltage of the rectifier remains stable within 1 v at 5 to 10% voltage variations in the network. Two graphs show the elastive and the steep falling characteristics (Fig. 2 and 3). The technical data are (Table 3):

Card 1/5

Welding rectifier with elastive and ...

S/125/61/000/006/009/010
D040/D112

	VSU-300		VSU-500	
	Elastive	Falling	Elastive	Falling
Network voltage		220 / 380 v		
Rated welding current, amp	300	200	500	350
Operation time (%)	60	60	60	60
Rated work voltage, v	35	30	40	30
No-load voltage, v	53-65	65	52-68	68
Welding current range limits, amp....	50-330	25-240	90-550	50-350
Welding voltage range, v.....	17-35	-	20-40	-
Efficiency, %	68	63	70	66
No-load losses, w	600	700	900	700
Outer dimensions, mm	910 x 612 x 960		1186 x 593 x 1017	
Weight, kg		320		420

The VSU rectifiers have aluminum windings, and their efficiency is higher and the no-load losses lower than in analogous motor-generator units. There are 10 figures, 3 tables and 4 Soviet references.

ASSOCIATION: VNIIESO

SUBMITTED: December 12, 1960

Card 2/5

ACC NR: AP6015642

(N)

SOURCE CODE: UR/0413/66/000/009/0053/0053

INVENTORS: Feder, Ye. S.; Zaks, M. I.; Lapidus, Sh. I.

ORG: none

TITLE: A universal welding rectifier. Class 21, No. 181212 [announced by All-Union Scientific Research Institute of Electric Welding Equipment (Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo oborudovaniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 53

TOPIC TAGS: welding equipment component, semiconductor rectifier, volt ampere characteristic

ABSTRACT: This Author Certificate presents a universal welding rectifier. The rectifier includes a power transformer, a regulation unit, and a saturation choke coil with control windings. The operating windings of the choke coil are joined in parallel and are connected in series with the rectifiers of the semiconductor power rectifier. The design simplifies the production of steep-dipping and flat-dipping external volt-ampere characteristics. One of the control windings of the saturation choke coil is connected to an unregulated voltage and serves as the bias winding in association with the flat-dipping external characteristics and as the preliminary magnetization winding in association with the steep-dipping characteristics. The

Card 1/2

UDC: 621.791.037-523

ACC NR: AP6015642

other control winding is connected to a regulated voltage, and provides the control in association with the flat-dipping external characteristics. The other control winding in association with the steep-dipping characteristics serves for producing the welding current feedback.

SUB CODE: 09 13/ SUBM DATE: 12Apr65

Card 2/2

ZAKS, M. I.

The VSU-300-2 universal rectifier used in electric arc welding .
Bul.tekh.-ekon.inform. no.11;11-13 '60. (MIR/ 13;11)
(Electric current rectifiers)

D'YACHKOV, B.A.; ZAKS, M.I.; RYVKIN, A.L.

Welding rectifier with elastance and drooping characteristics.
Avtom. svar. 14 no.6:63-72 Je '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrosvarochnogo
oborudovaniya.

(Electric welding—Equipment and supplies)

1980, H.L., Iran.; KITAHARA, A., 1981.

Special equipment for remote gas-into-lead electrocatalytic welding. Zoro-
stroenie 30 no.10:47-50 0 162. (MIRA 17:12)

ZAKS, M. L.

"Use of Cooling Water of Metallurgical Furnaces for the Entire Heat Supply," Za
Ekon. Top., No.7, 1948.

Energetics Inst. im. Krzhizhinskiy, AS USSR

ZAKS, M. I.

USSR/Engineering
Turbines
Heating, Industrial

Jun 49

"Regulated Selection of Optimum Pressure for
Central-Heating Turbines and Temperature of the
Heating Medium," M. I. Zaks, Power Eng Inst
Imeni G. M. Krzhizhanovskiy, 8, pp

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 6

Results showed efficiency of using turbines with a
regulated selection of 0.7 - 1.2 atm and a non-
regulated 6-atm selection for thermification
(central-heating) requirements. Such a change in
the range (present range 1.2 - 2.5 atm) will prove
52/49740

USSR/Engineering (Contd)

Jun 49

especially efficient for turbines operating at
high thermification coefficients (ratio of maximum
hourly turbine heat output to maximum hourly heat
output of thermoelectric central) and those
serving large industrial enterprises. Optimal
temperatures of heating medium depend primarily
on the thermification coefficient and, in a majority
of cases, are considerably higher than temperatures
now used in thermal systems. Submitted by Acad
S. M. Krzhizhanovskiy, 5 Feb 49.

52/49740

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

100 AND 2TH ORDERS

21

Energy Characteristics of Heat and Power Recovery From High-Temperature Processes With the Aid of Gas Turbines. (In Russian.) V. I. Veits and M. I. Zaks. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 67, July 1, 1949, p. 60-72.

Discusses above from the theoretical and practical viewpoints. Schematic diagram shows arrangement of a plan for use of the heat evolved from high-temperature processes for heating and also for power generation.

A.S.M. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

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328	329	

1ST AND 2ND SECTIONS										3RD AND 4TH SECTIONS									
PROCESSES AND PROPERTIES INDEX																			
<p>5090. ENERGY CHARACTERISTICS OF AIR TURBINE IN SYSTEM OF THERMIFICATION OF HIGH TEMPERATURE PROCESSES. Veits, V. I. and Zaks, M. L. (Doklady Akad. Nauk S.S.S.R. (Rep. Acad. Sci. U.S.S.R.), 1949, vol. 69, (3), 361-363).</p> <p>A theoretical examination of a system in which the hot air supplied to a high temperature process (e.g. the air blast of a blast furnace) also drives an air turbine coupled to an alternator. The author compares the relative economy of combinations of this kind which include an air turbine with those which include a gas turbine, and concludes that, other things being equal, this depends on the temperature of the heat carrying medium. Greater economy is obtainable with the air turbine when this temperature is 0-500°C. and with the gas turbine when it is 500-800°C. Economy is approximately equal for the two systems when it is 900°C. and over. (L).</p>																			
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USSR/Engineering - Power Engineering Feb 51

"Power Characteristics of Heat-Producing Systems for Industrial High-Temperature Processes," M. I. Zaks, Power Eng Inst Imeni G. M. Krzhizhakovskiy, Acad Sci USSR

"Iz Ak Nauk, Otdel Tekh Nauk" No 2, pp 224-237

Deduced power characteristics permitting detn of optimum parameters, comparison of combined and sep systems and evaluation of power efficiency of installations in respect to conditions of usage. Studied 2 systems: combination syst with gas turbine, and combination installation with air

185742

USSR/Engineering - Power Engineering Feb 51
(Contd)

turbine. Data discussed represent one of the steps toward solving problem of selecting optimum parameters and types of combined installations. Submitted by Acad A. V. Vinter.

185742

ZAKS, M. L.

USSR/Electricity - Turbines, Mercury 1 Aug 51

"Energy Characteristics of a Combined Unit Having a Mercury Turbine for the Production of High-Potential Heat," M. L. Zaks

"Dok Ak Nauk SSSR" Vol LXXIX, No 4, pp 595-599

Evaluates the mercury boiler-turbine unit from the energy standpoint and compares its efficiency when operating alone with that obtained in combined operation with a gas turbine. Outlines areas of application of both systems. Submitted by Acad A. V. Vinter 7 Jun 51.

211T51

ZAKS, M. L.

PERIODICAL ABSTRACTS

Sub.: USSR/Engineering

AID 4170 - P

ZAKS, M. L.

RASCHETNAYA POTERYA DAVLENIYA V VODYANYKH TEПLOVYKH SETYAKH
(Rated pressure loss in water heating networks (district
heating). Teploenergetika, no. 2, F 1955: 34-37.

The method of determining unit pressure losses in district
heating conduits, is explained. By means of theoretical
analysis it is possible to compute formulae to be used in
the design and calculation of new networks. Six diagrams.

ZAKS, M. L.

1945. ESTIMATED PRESSURE LOSSES IN WATER-HEATING SYSTEMS. Zaks, M. L.
(Toplenergetika (Heat Engng. Moscow), Feb. 1955, vol. 3, 24-37). A
method of determining the specific loss of pressure in water-heating systems
is outlined. Formulas are presented which permit determination of the
optimum parameter in relation to the accepted standard of economic efficiency.
These formulas can be usefully applied when planning heating systems. (L).

ZAKS, M.L.

770. SELECTING STEAM PARAMETERS FOR AN INDUSTRIAL DISTRICT HEATING

ZAKS, M.L.

Technical and economic indexes for calculating hot-water heating systems. Nauch.dokl.vys.shkoly; stroi. no.1:301-308 '59.
(MIRA 12:10)

1. Rekomendovana kafedroy teplo tekhniki i teplofikatsii Moskovskogo inzhenerno-stroitel'nogo in-tituta im. V.V.Kiryushcheva.
(Hot-water heating)

ZAKS, M.L., kand.tekhn.nauk

Design flow rates in heat networks and the conditions of heating
systems. Vod. i san. tekhn. no.11:14-19 N '64.

(MIRA 18:2)

ZAKS, M.L., kand. tekhn. nauk

Method of calculating and simplified formulas for designing
a two-stage system of heat intake. Vod. i san. tekhn. no.11:
23-28 N '63. (MIRA 17:1)

ZAKS, M. L., kand. tekhn. nauk; KAPLINSKIY, Ya. I., inzh.

Operation of an open heat supply system and methodology for
calculating its central control. Teploenergetika 10 no.3:
46-51 Mr '63. (MIRA 16:4)

1. Moskovskiy inzhenerno-stroitel'nyy institut im. V. V.
Kuybysheva i Gosudarstvennyy trest po organizatsii i
ratsionalizatsii rayonnykh elektrostantsiy i setey.

(Heat engineering)

ZAKS, M.L., kand.tekhn.nauk; KAPLINSKIY, Ya.I., inzh.

Accumulator tanks for water system district heating stations.
Teploenergetika 8 no.11:61-67 N '61. (MIRA 14:10)

1. Moskovskiy inzhenerno-stroitel'nyy institut.
(Heating from central stations)

ZAKS, M.L., kand.tekhn.nauk; STOLYAROV, A.V., inzh.

Condensation power plants equipped with steam and gas turbines and their comparative thermal efficiency [with summary in English]. Teploenergetika 6 no.3:19-25 Mr '59. (MIRA 12:4)

1. Moskovskiy inzhenerno-stroitel'nyy institut i Energeticheskiy institut AN SSSR.

(Electric power plants) (Steam turbines) (Gas turbines)

4

SOV/96-59-3-4/21

AUTHORS: Zaks, M.L., Candidate of Technical Sciences
Stolyarov, A.V., Engineer

TITLE: Steam-Gas Condensing Power Stations and Their Comparative
Thermal Efficiencies (Parogazovyye kondensatsionnyye
elektrostantsii i ikh sravnitel'naya teplovaya
effektivnost')

PERIODICAL: Teploenergetika, 1959, Nr 3, pp 19-25 (USSR)

ABSTRACT: It is timely to consider the most efficient way of using
gas as a power-station fuel. Stations may operate with
gas turbines, with steam turbines or with a combination
of the two. So far a procedure for comparing these
types of power station has not been formulated.
Fundamentally, the combined station consists of a steam
boiler and gas-turbine combustion chamber as a single
unit: a high-pressure steam generator operates on the
gas side under a pressure set up by the compressors of
the gas-turbine set. With this method of operation, the
heating surfaces are small and much less than the normal
amount of metal is required. In the steam generator the
amount may be only 0.55 - 0.70 kg/kg steam, i.e. a quarter
of that in an ordinary boiler. In comparing a gas-fired

Card 1/5

SOV/96-59-3-4/21

Steam-Gas Condensing Power Stations and Their Comparative Thermal Efficiencies

steam station and a combined station (without intermediate cooling of the compressors in the gas-turbine group), it is assumed that with equal excess air factors and equal initial steam conditions an equal quantity of fuel is consumed in both stations. Then if the outlet gas temperatures are equal, the associated losses are also equal. A comparison is then made between the thermal efficiencies of a gas-fired steam station, a gas-turbine installation and a combined steam-gas installation, the schematic diagram of which is given in Fig.1. This installation consists of a gas-turbine group, a condensing-type steam turbine, a high-pressure steam generator and regenerators. The gas and air are compressed in the compressors of the gas-turbine stage and after heating in the regenerators are delivered to the steam generator, which serves also as the combustion chamber of the gas turbine. The combustion products are used successively as heat-transfer medium for steam raising and as working substance for the gas-turbine installation. The steam

Card 2/5

SOV/96-59-3-4/21

Steam-Gas Condensing Power Stations and Their Comparative Thermal Efficiencies

generator reduces the temperature of the combustion product to a value suitable for the gas turbine. After the combustion products have expanded in the gas turbine and passed through the regenerators they are discharged to atmosphere. The thermal circuit of the steam stage is normal. Comparative thermal efficiencies of the three types of station are then calculated. The ratio between the outputs of the gas turbine and the steam turbine affects the thermal efficiency in the manner plotted in Fig.2. A general comparison of the thermal efficiencies of the three types of station for different conditions is seen in Tables 1 and 2. Table 2 compares a combined and a gas-turbine station for different ratios of heat consumption in the steam- and gas-turbines. The procedure described above was used to make a general evaluation of the thermal efficiency of a combined station. The influence of individual parameters of the cycle on the efficiency were considered. The particular factors discussed included: the excess-air factor; the use of higher steam conditions and the use of a more efficient

Card 3/5

SOV/96-59-3-4/21

Steam-Gas Condensing Power Stations and Their Comparative Thermal Efficiencies

gas stage. Calculated values of efficiency for combined steam-gas stations are plotted in Figures 6 and 7. The calculations relate to gas obtained by underground gasification of coal. The conditions assumed in the calculation are stated. The graphs may be used to compare the efficiencies of steam, gas and combined stations for different steam conditions and gas-turbine operating conditions. The curves in Fig.8 show the range of efficiency of combined and gas-turbine stations. It is concluded that in the combined station, the greatest fuel economy results from the use of medium and high initial steam conditions; also that the thermal efficiency of the combined steam-gas systems is then higher than that of a gas-fired steam station. The range in which the combined station is most efficient is somewhat extended when heat is delivered to the gas stage in two steps. Combined installations give higher fuel economy than gas turbines having low inlet temperatures. The output of combined stations is

Card 4/5

SOV/96-59-3-4/21

Steam-Gas Condensing Power Stations and Their Comparative Thermal Efficiencies

governed by the unit output of the steam stage and their use will be most effective in power stations of small and medium output. There are 8 figures, 2 tables and 1 Soviet reference.

ASSOCIATION: Moskovskiy inzhenerno-stroitel'nyy institut (Moscow Civil Engineering Institute); Energeticheskoy Institut AN SSSR (Power Institute Ac.Sc. USSR)

Card 5/5

KOBRIN, M.M., kand. tekhn. nauk; ZAKS, M.N., inzh.; BELOKUROV, V.N.

Studying the joints of the frames of farm trailers. Trakt. i sel'khoz mash.
no.7:15-17 JI '65. (MIRA 18:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktiv (for Kobrin). 2. Mytishchinskiy mashinostroitel'nyy zavod (for Zaks, Belokurov).

AKINOV, A.G., inzh.; ZAKS, M.N., inzh.; MELIK-SARKIS'YANTS, A.S.,
inzh.; EZROKHI, Kh.L., inzh.; reizenzent

[Self-unloading vehicles in automotive transportation;
the design and construction of dump trucks] Samorazgru-
zhaushchiisia avtotransport; konstruksia i raschet
avtomobilei-samosvalov. Moskva, Mashinostroenie, 1965.
230 p. (MIRA 18:8)

ZAKS, M.N.

Transverse stability of dump trucks at a side dumping of the
load. Avt. prom. 90 no.12:23-28 D '64. (MIRA 18:2)

1. Mytishchinskiy mashinostroitel'nyy zavod.

ZAKS, M.N.; LEL'CHUK, L.M.

Characteristics of the torsion of a motor-vehicle frame in case
of a shift of the axis of rotation from the plane of the frame.
Avt.prom. 31 no.5:33-35 My '65. (MIRA 18:5)

1. Mytishchinskiy mashinostroitel'nyy zavod i Gosudarstvennyy
vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskoy institut
remonta i ekspluatatsii mashinno-traktornogo parka.

ZAKS, M.N.

Lateral stability of a tractor train on a slope. *Avt.prom.*
28 no.1:25-29 Ja '62. (MIRA 15:2)

1. Mytishchinskiy mashinostroitel'nyy zavod.
(Tractor trains)

ZAKS, M. N.

Determining stresses in rivets caused by the torsion of motortruck frames. Avt. prom. 29 no.5:29-31 My '63. (MIRA 16:4)

1. Mytishchinskiy mashinostreitel'nyy zavod.

(Motortrucks—Frames)

ZAKS, N. A.

Visual methods of studying the flow of a current around objects. Moskva? Izd
VVIA, 1949. Mic 52-206. Collation of the original: 62 p.

Microfilm TL-9

MARTYNOV, A.K.; OSTOSLAVSKIY, I.V., prof., retsenzent; BURAGO, G.F., prof.,
retsenzent; ZAKS, N.A., dotsent, retsenzent; STRIZHEVSKIY, S.Ya.,
dotsent, retsenzent; KOTLYAR, Ya.M., red.; ZUDAKIN, I.M., tekhn.red.

[Experimental aerodynamics] Eksperimental'naya aerodinamika.
Moskva, Gos.izd-vo obor.promyshl., 1950. 475 p.

(MIRA 13:7)

(Aerodynamics)

ZAKS, N. A.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 271 - I

Call No.: AF616837 610837

BOOK

Author: ZAKS, N. A.

Full Title: PRINCIPLES OF EXPERIMENTAL AERODYNAMICS

Transliterated Title: Osnovy eksperimental'noy aerodinamiki

Publishing Data

Originating Agency: None

Publishing House: State Publishing House of the Defense Industry
(Oborongiz)

Date: 1953

No. pp.: 371

No. of copies: Not given

Editorial Staff

Editor: None

Tech. Ed.: None

Editor-in-Chief: None

Appraiser: None

Others: Gratitude for assistance expressed to Professors:

Kamenkov, G. V., Mel'nikov, A. P., Zhuravchenko, A. N.

and to Dotsents: Timchenko, Ya. Ye., Putyata, V. I.

and Grumondz, T. A.

Text Data

Coverage: This is a textbook for a university course in experimental aerodynamics. It contains the description of the following topics: Aerodynamic similarity, aerodynamic research, experimental aerodynamic research on the wing and other aircraft, components, calculation of aircraft characteristics.

1/8

Translation (brief) - D496440

Osnovy eksperimental'noy aerodinamiki

AID 271 - I

Due attention is also given to aerodynamics of high velocities. Diagrams, graphs, photos, etc.

A modern and very well-compiled textbook, comparable to Fluid Dynamics by Prandtl, 1952 edition, or to the Introduction to Aeronautical Dynamics by M. Rauscher, 1953, though less theoretical, and shorter.

TABLE OF CONTENTS

PAGE

Ch. I Aerodynamic Coefficients of Experimental Aerodynamics
Aerodynamic Similarity

18-37

Systems of axes of coordinates; Aerodynamic coefficients; Transition from one system of coordinates to another; Aerodynamic similarity; Transition from model to full-size body on the principle of similarity; Factors influencing aerodynamic resistance; Criteria of similarity.

Ch. II Methods of Aerodynamical Research

42-94

First experiments to determine the resistance of the air medium to a body moving in it; Aerodynamic tunnels; Main layouts of tunnels; Aerodynamic weight; Experimental diagrams of wing aerodynamic characteristics; Diagrams of moments, focuses,

Osnovy eksperimental'noy aerodinamiki

AID 271 - I

PAGE

centers of pressure; Examples of utilization of experimental aerodynamics diagrams; Special tunnels and instruments intended for securing aerodynamic similarity according to parameters R , F , S , and ξ ; High velocity aerodynamic tunnels; Formulas for the calculation of aerodynamic coefficients by means of experiments with models in high velocity tunnels; Practical possibilities of obtaining similarity to standards R and M in aerodynamic tunnels; Ballistic method of research of resistance; Some other methods of aerodynamic research; Optical research methods; Shadow method, and wave or "Schlieren-shadow" method; Optical research methods, interference method.

Ch. III Measurement of Velocity and Pressure, Diagram of Pressure Distribution over a Body in an Air Flow 100-148
Manometers and pressure intakes; Flow velocity measurement; Determination of the dynamic pressure field in the working section of a wind tunnel; Pressure in the critical point at high subsonic flight velocities; Measurement of high subsonic velocities, corrections for air compressibility and for flight altitude, calibration of the

3/8

Osnovy eksperimental'noy aerodinamiki

AID 271 - I

PAGE

speedometer; Measurement of the M number; Drag temperature, determination of velocity according to the M number and to the drag temperature; Measurement of the static pressure and of the M number at supersonic flight velocity; Measurement of the direction of the flow; Flow direction meters, gauging of the diversion obliquity of the flow in an aerodynamic tunnel; Electrical instruments for measuring speed; Pressure distribution over a body in a flow; Derivation of formulae for the determination of forces and moments acting on a wing; Calculation of aerodynamic forces, moments and aerodynamic coefficients according to a pressure diagram; Correction of the results of the experimental determination of the head resistance due to the gradient of static pressure.

Ch. IV Normal Boundary Layer and Turbulence

150-192

The structure of a normal boundary layer; Transition point; Laminar boundary layer; Friction coefficient; Turbulent boundary layer; Coefficients of a turbulent and mixed friction; Experimental methods determining the profile of velocity in the

4/8

Osnovy eksperimental'noy aerodinamiki

AID 271 - I

PAGE

boundary layer, and the position of the transition point; Determination by calculation of the transition point over a wing; Separation of the boundary layer; Turbulence of the stream; Determination of the stream turbulence by means of a thermo-electro-anemometer; Head resistance of a sphere in relation to the R number and to the turbulence of the stream; Sphere as a measure of turbulence; The scale of turbulence; The influence of turbulence on aerodynamic characteristics of some bodies; Reducing experimental results to the atmospheric turbulence; Means of changing the initial turbulence of the stream in aerodynamic tunnels.

- Ch. V The Influence of Geometrical Parameters and of the R Number on the Aerodynamical Characteristics of the Profile and of the Wing. Maximum Lifting Force of the Wing

197-254

Basic geometrical characteristics of a profile, and the formation of series of profiles; The influence of geometrical parameters of the profile on its aerodynamic characteristics; Geometrical parameters

5/8

Osnovy eksperimental'noy aerodinamiki

AID 271 - I

PAGE

sibility on aerodynamical characteristics of the profile at and below the critical speed; Aerodynamic characteristics of the profile at and above the critical speed; Some theoretical and experimental data on profile characteristics at supersonic speeds; The influence of sliding on aerodynamic characteristics of the wing; Swept-back wings; Wings of small elongation.

Ch. VII Drag of Rotating Elements, Engine Nacelles, Fuselages, and Other Aircraft Components. Determination of the Aircraft Polar Curve

305-340

Drag of streamlined rotating bodies at subsonic velocities; Drag of engine nacelles and fuselages at high subsonic velocities; Drag of streamlined rotating bodies at supersonic velocities; Lifting force and drag of a wing and of an aircraft; Interference of the aircraft components; Role of streamlining in reduction of drag of various components; Calculation of the drag coefficient of the wing and empennage; Drag of the cooling system; Drag of other aircraft components; Summary of drags, and the drawing of the polar curve of an aircraft; Drawing of the curve $C_y = f(\alpha)$.

7/8

Osnovy eksperimental'noy aerodinamiki

AID 271 - I

PAGE

of the wings of an aircraft; Influence of the relative elongation of the wing on its aerodynamic characteristics; The influence of narrowing on the distribution of the aerodynamic load along the span of the wing; The influence of the wing's warp on the distribution of the aerodynamic load; The method of impulses; Experimental determination of a level wing profile drag by the method of impulses; Analytical methods of determination of a level wing profile drag; Profiles of small resistance; The influence of the R number on the aerodynamic characteristics of the profile; Control of the boundary layer of the wing; Mechanization of the wing as means to increase $C_{y \max}$; Autorotation of a wing; Calculation of the $C_{y \max}$ of a wing without flaps; Calculation of the $C_{y \max}$ of a wing with flaps.

Ch. VI The Influence of the Compressibility of Air on the Aerodynamical Characteristics of a Profile and of a Wing. High Velocity Aircraft Wings.

260-298

Critical M number; Dependence of the critical M number on the geometrical parameters of the wing and on its angle of incidence; Influence of compres-

6/8

Osnovy eksperimental'noy aerodinamiki

AID 271 - I

Ch. VIII Aerodynamic Characteristics of the Stability and Controllability of the Aircraft

PAGE

342-366

Conceptions of aircraft stability and controllability; Diagrams of aircraft longitudinal static stability; Diagrams of aircraft transversal static stability; Hinge moment of the rudder and pressure on the control stick or the rudder bar; Horn, axial, and internal balances; Servocompensators and trimmers.

Purpose: Approved by the Main Board of Higher Education of the Ministry of Culture, USSR, as a textbook for students of advanced courses in aviation institutes of higher learning. This book may be also useful to engineering and technical staffs of aviation plants, design bureaus, and research laboratories.

Facilities: A large number of names of Russian scientists appear in the text.

No. of Russian and Slavic References: 3 before 1940, and 5 after that date

Available: A.I.D., Library of Congress.

8/8

BURGESS, Eric; KUZNETSOV, S.I. [translator]; ZAKS, N.A. [translator];
TIMROT, D.L., red.

[Frontier to space] K granitsam prostranstva. [Translated from
the English] Perevod s angliiskogo S.I.Kuznetsova i N.A.Zaksa.
Pod red. D.L.Timrota. Moskva, Izd-vo inostrannoi lit-ry, 1957.
221 p. (MIRA 12:3)

(Atmosphere, Upper--Rocket observation)

12300 also 1573

23279
S/135/61/006/007/002/012
A006/A106

AUTHOR: Zaks, N. A., Engineer

TITLE: The effect of heat treatment and extended heating on ferrite-austenite welds

PERIODICAL: Svarochnoye proizvodstvo, no. 7, 1961, 6-9

TEXT: An investigation was made of the dependences of the mechanical properties of 25-5 type ferrite-austenite metal. Tests were carried out with multi-layer built-up specimens using 3H-905 (EI905) wire electrodes with HMM-48 (NII-48) coatings. Building-up was performed on the edges of a rolled 3H-954 (EI-954); 16 mm thick steel plate, in 8-10 layers with d-c of reverse polarity. The electrode diameter was 5 mm; current intensity 210-220 amps; arc voltage 18-22 v and welding speed 10-12 m/hr. Subsequent layers were built-up after cooling the preceding layer to below 100°C. The compositions of the base metal, the electrode wire, and the built-up metal are given in a table. Stabilizing and austenization were carried out at 850, and 1000°C for 50, 500 and 1,500 hours. It was found that heat treatment did practically not affect the strength properties of built-up ferrite-austenite metal of the 25-5 type. Homogenization raised

Card 1/4

23279

S/135/61/000/007/002/012

A006/A106

The effect of heat treatment ...

the ductile properties of the metal and, in particular, its toughness. Maximum toughness is shown by metal in austenized state. Stabilization at 850°C, which is necessary to reestablish corrosion immunity or to remove residual stresses after welding, does not cause considerable embrittlement of the built-up metal of the 25-5 type, as of 18-8 or 18-11-3 (Mo) austenite-ferrite metal, containing up to 10% ferrite. This is caused by the shifting of the δ -phase range to the side of lower temperatures and by its accelerated formation at 600-650°C. Sigmatization of 25-5 type built-up metal occurs most effectively at 650°C; as a result, tempering and extended holding at the given temperature cause considerably reduced toughness. The 25-5 type built up metal is prone to brittleness at 475°C, which begins to manifest itself during tempering within 400-500°C and also after extended holding above 300°C. Therefore 25-5 type weld joints can be recommended for long-lasting operation at not over 300°C in the after-welding state and up to 340°C in stabilized or austenized condition. The causes of embrittlement at 475°C were studied by a number of authors (Ref. 9-14: Imai, Y., Kumada K., Science Reports of the Iohoku University (Japan), June, 1953; Josso, E., Interpretation of brittleness at 475°C of alloys, Comptes Rendus de l'Academie des Sciences, Paris, v. 240, no. 7, 2955; Ardentov, V. V., New electrodes for welding stainless austenite steels, Collected volume "Svarochnoye proizvodstvo", Lenizdat, 1957; Fischer, R. M.,

Card 2/4

23279
S/135/61/000/007/002/012
A006/A106

The effect of heat treatment ...

Dulis, E. J. and Carrol, K. G. "Journal of Metals", no. 6, 1954; Lena, A. J. and Hawkins, M. F. Embrittlement of stainless steels at 475°C, "Journal of Metals" no. 2, 1952 and no. 6, 1954; Dyatlov, V. I., Kopersak, N. I. "On the nature of embrittlement at 475°C of chrome-nickel stainless steels "Avtomaticheskaya svarka" no. 5, 1959). The investigation performed by the author shows that brittleness at 475°C is a reversible process, since, after brief-lasting tempering at 550°C and more, the toughness is reestablished up to values approaching the initial ones. Considering that this is caused by the dissolving of the singled-out phase, it is not clear why extended holding at 550 - 650°C entail the formation of δ' and δ'' -phases, but brief-lasting holding at the indicated temperatures cause their dissolving. Based on these concepts the authors of Ref. 14 advanced a hypothesis on the inter-phase distribution of chromium in the α -phase without the singling-out of excessive phases. They confirm that the concentration of atoms on certain areas of the iron crystal lattice distorts this lattice, causing "interphase case-hardening". The interphase redistribution of chromium entails the formation of two types of complex zones enriched with chromium (the Guinier-Preston zone) and zones impoverished in chromium. These complexes are coherently connected between each other and with the mother liquor, i. e. decomposition of the solid solution does not take place. The interphase heterogeneity explains the loss in strength

Card 3/4

23279
S/135/61/000/007/002/012
A006/A106

The effect of heat treatment ...

of embrittled metal against corrosion; case-hardness reduces toughness and increases hardness and strength. Welding of ferrite-austenite 25-5 type steels with electrodes manufactured on 18-11-3 (Mo) base wire is permissible under the condition that the articles after welding will not be exposed to stabilization or tempering for removing stresses within a range of 600-850°C. This treatment causes strong embrittlement of the weld metal as a result of sigmatization.

Table 1

Object of research	Content of components in %										
	C	Si	Mn	Cr	Ni	Mo	V	Ti	N	S	P
Base (rolled) metal 954 (EI954) (25 5) (Kh25N5TMP)	0,09	0,03	0,44	24,3	5,35	0,10	0,11	0,10	0,044	0,024	0,028
Electrode wire 905(EI905) (-08 25 5) (Sv-08Kh25N5TMP)	0,07	0,33	0,40	24,2	4,92	0,11	0,11	0,10	0,20	0,009	0,007
Metal built-up with electrodes made of EI905 wire with NII-48 coatings	0,10	0,57	1,18	23,4	5,03	0,08	0,09	0,01	0,18	0,016	0,019

There are 2 tables, 6 figures and 14 references: 10 Soviet-bloc and 4 non-Soviet-bloc.

ASSOCIATION: Leningradskiy Kirovskiy zavod (Leningrad Kirov Plant)

Card 4/4

ZAKS, N.A., inzhener-polkovnik zapasa, dotsent, kand.tekhn.nauk

Sound "claps," Vest.Vozd.Fl. no.6:71-75 Je '61. (MIRA 14:8)
(Jet plane sounds)

ZAKS, N.A.

Pneumatic collecting cotton distributor. Tekst. prom. 24
no.8:30-33 Ag '64. (MIRA 17:10)

1. Nachal'nik laboratorii Vsesoyuznogo nauchno-issledovatel'-
skogo instituta legkogo i tekstil'nogo mashinostroyeniya
(VNIITekmash).

KLYUCHAREVA, G.G.; ZAKS, O.P.

Method for determining the radioactive phosphorus isotope in
bacteriophage retained on a glycerol-collodion filter. Trudy
LSGMI 46:263-269 1959. (MIRA 13:11)

1. Kafedra mikrobiologii Leningradskogo sanitarno-gigiyenicheskogo
meditsinskogo instituta (zav. kafedroy - prof. M.N.Fisher) i
Kafedra fiziki (zav. kafedroy - prof. S.S.Prilezhayev).
(PHOSPHORUS—ISOTOPES) (BACTERIOPHAGE)
(STAPHYLOCOCCUS)

ZAKS, O. V.; MUCHNIK, M. I. [Muchnyk, M. I.]

Some theoretical dependences in the process of two-stage
saponification. Khar. prom. no. 1:18-22 Ja-Mr '63.
(MIRA 16:4)

1. Odesskiy proyektno-konstruktorskiy institut kompleksnoy
avtomatizatsii proizvodstvennykh protsessov pishchevoy promysh-
lennosti.

(Saponification) (Oils and fats)

L 34128-66 ENT(m)/EWP(j) RM

ACC NR: AP6025527

SOURCE CODE: UR/0079/66/036/001/0044/0046

AUTHOR: Mandel'baum, Ya. A.; Zaks, P. G.; Mel'nikov, N. N. 24
B

ORG: All-Union Scientific Research Institute of Chemical Means of Plant Protection
(Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity rasteniy)

TITLE: New method for producing mixed dialkyl phosphites ¹

SOURCE: Zhurnal obshchey khimii, v. 36, no. 1, 1966, 44-46

TOPIC TAGS: chemistry technique, alcohol, water, phosphorus chloride

ABSTRACT: A new one-stop method has been developed for producing dialkyl phosphites with various radicals. ¹ A mixture consisting of two different alcohols and water, taken in equimolar tations, is treated with phosphorus trichloride. Constants are cited for 11 dialkyl phosphites synthesized by this method. Orig. art. has: 1 table.

[JPRS: 35,998]

SUB CODE: 07 / SUBM DATE: 04Nov64 / ORIG REF: 008 / OTH REF: 003

Cord 1/1

UDC: 661.718.1

MANDELBAUM, YA.A., ZAKS, P.G., MELNIKOV, N.N.

New method of synthesizing esters of thiophosphoric acid.

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and application of organophosphorus compounds) A. YE. ARBUZOV, Ed.
Publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1962, 632 pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

MANDEL'BAUM, Ya.A.; MEL'NIKOV, N.N.; BAKANOVA, Z.M.; ZAKS, P.G.

Organic insecticide-fungicides. Part 61: Synthesis of some
mixed ethyl mercaptoethyl thiophosphates. Zhur.ob.khim. 31
no.12:3947-3949 D '61. (MIRA 15:2)

1. Nauchnyy institut po udobreniyam i insektofungitsidam im.
Ya.V.Samoylova, Moskva.

(Phosphothioic acid)
(Insecticides)

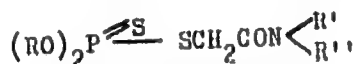
AUTHORS: Mandel'baum, Ya. A., Mel'nikov, K. B., SOV/79-29-1-59/74
Zaks, P. G.

TITLE: On the Field of Organic Insecticides (Iz oblasti organicheskikh
insektofungitsidov) XXXVII. Synthesis of Several Mixed
Thio- and Dithiophosphoric Acids (XXXVII. Sintez nekotorykh
smeshannykh efirov tio- i ditiyosfornyykh kislot)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 283-285 (USSR)

ABSTRACT: Besides thio- and dithiophosphates of the general formula

$$(RO)_2P \begin{smallmatrix} \nearrow X \\ \searrow \end{smallmatrix} X(CH_2)_n SR'(I) \text{ used against plant pests, compounds}$$
of the general formula



have come into use during the last years (Refs 1, 2). The
so-called "acetyl urea" (Refs 3, 4) may serve as an example
for the compounds of this kind investigated in the USSR. While
investigating how insecticide activity of organo-phosphorus
compounds depended on their structure, and in the search for
new insecticides, harmless to warm-blooded animals and humans,

Card 1/2

On the Field of Organic Insecticides.

SOV/79-29-1-59/74

.XXXVII. Synthesis of Several Mixed Thio- and Dithiophosphoric Acids

the authors particularly directed their efforts towards the synthesis of the mixed esters of thio- and dithiophosphoric acids of the general formulas (III), (IV), and (V). It was carried out by the reaction of diethyl-thio- and diethyl-dithiophosphates with the corresponding monochloro acetic and monochloro thioacetic acid on heating the reaction solution. As expected, the thionic isomers of the thiophosphates were obtained (Refs 5, 6)(Table). Activity against insects did not quite come up to expectations compared to O,O-diethyl-O,4-nitro-phenyl thiophosphate. There are 1 table and 6 references, 4 of which are Soviet.

ASSOCIATION: Nauchnyy institut po udobreniyam i insektfungitsidam
(Scientific Institute for Fertilizers and Insectifungicides)

SUBMITTED: November 20, 1957

Card 2/2

AUTHORS: Mel'nikov, N. N., Mandel'baum, Ya. A., Zaks, P. G. SOV/79-29-2-35/71

TITLE: On the Field of Organic Insectofungicides (Iz oblasti organicheskikh insektofungitsidov). XXXVIII. On the Reaction of Thiophosphorus Trichloride and the Alkyl Dichloro Thiophosphates With Alcohols (XXXVIII. O vzaimodeystvii tiotrekhhloristogo fosfora i alkildikhloriofosfatov so spirtami)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 522-526 (USSR)

ABSTRACT: In continuation of previous papers published by Mel'nikov and coworkers (Refs 1-11) the authors investigated the reaction of thiophosphorus trichloride and the alkyl dichloro thiophosphates with alcohols under various conditions. They obtained various products according to the conditions of reaction and the ratio of the reacting compounds. On the reaction of 2 mols ethyl alcohol with 1 mol thiophosphorus trichloride the ethyl-dichloro thiophosphate (45-50%) and ethyl thiophosphoric acids (20%) are obtained at 40-50°. The reaction of 1 mol thiophosphorus trichloride with 4 mols ethyl alcohol at 50-60° leads to a mixture of esters (46-48%) which consists of 80% ethyl-dichloro thiophosphate and 20% diethyl-chloro thiophosphate,

Card 1/3

SOV/79-29-2-35/71

On the Field of Organic Insectofungicides. XXXVIII. On the Reaction of Thiophosphorus Trichloride and the Alkyl Dichloro Thiophosphates With Alcohols

however, it is possible to synthesize an almost pure diethylchloro thiophosphate in a yield of only 10% if it is heated for a while in a boiling water bath. Besides chloro thiophosphates also ethyl thiophosphoric acids and ethyl chloride are formed under the above-mentioned conditions. The reactions of thiophosphorus trichloride with alcohols and their succession can be represented by the schemes (3)-(7) mentioned. According to these schemes the authors arrived at the conclusion that good yields of dialkyl chloro thiophosphates can be obtained on sufficient dilution of the reaction medium with alcohol. This assumption was fully confirmed by experiments (Table 1). Much better yields of dialkyl chloro thiophosphates are obtained by reaction of alcohols with alkyl dichloro thiophosphates, in the course of which methyl alcohol offers the highest yield (Table 2). The reaction of methyl alcohol with thiophosphorus trichloride or alkyl dichloro thiophosphate leads to trialkyl thiophosphates, however only with small yields (Table 3). Therefore, thiophosphorus trichloride and alkyl dichloro thiophosphates react like typical chloric anhydrides, similar to acid halides of the other inorganic and

Card 2/3

On the Field of Organic Insectofungicides. XXXVIII. On the Reaction of Thio-
phosphorus Trichloride and the Alkyl Dichloro Thiophosphates With Alcohols

SOV/79-29-2-35/71

organic acids. There are 3 tables and 12 references, 9 of which
are Soviet.

ASSOCIATION: Nauchnyy institut po udobreniyam i insektofungitsidam
(Scientific Institute of Fertilizers and Insectofungicides)

SUBMITTED: December 24, 1957

Card 3/3

ZEN'KEVICH, A.G.; ZAKS, P.G.; MANDEL'BAUM, Ya.A.; MEL'NIKOV, N.N.

Organic insectofungicides. Part 55: Synthesis of some
alkylarylthiophosphoric acid hydrazides. Zhur.ob.khim.
30 no.7:2317-2319 J1 '60. (MIRA 13:7)

1. Nauchnyy institut po udobreniyam i insektofungitsidam, Moscow.
(Hydrazides) (Phosphorothioic acid)

MEL'NIKOV, N.N.; MANDEL'BAUM, Ya.A.; SHVETSOVA, K.D.; BAKANOVA, Z.M.
LOMAKINA, V.I.; ZAKS, P.G.; MIL'SHTEYN, I.M.; POPOV, P.V.;
POKROVSKIY, Ye.A.; BOCHAROVA, L.P.; SEDYKH, A.S.; UKRAINTS, N.S.

Improved technology for producing thiophos, metaphos, chlorophos
and other phosphorus organic insecticides and investigation of
new insecticides and fungicides derived from the esters of
phosphoric acids. [Trudy] NIUIF no.164:11-14 '59. (MIRA 15:5)
(Insecticides) (Fungicides)

L 38696-66 EWT(1)/EWT(m)/EWP(j) RO/RM

ACC NR: AP6021413

SOURCE CODE: UR/0413/66/000/011/0018/0018

INVENTOR: Mandel'baum, Ya. A.; Mel'nikov, N. N.; Zaks, P. G.; Roslavytseva, S. A.

ORG: none

TITLE: Organophosphorus insecticides with increased activity. Class 12, No. 182138
[announced by All-Union Scientific Research Institute of Chemicals for Plant
Protection (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv
zashchity rasteniy)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 18

TOPIC TAGS: insecticide, organophosphorus compound, synergist, *insect control*

ABSTRACT: An Author Certificate has been issued for a method of increasing the
insecticide activity of organophosphorus preparations by addition of synergists.
The method involves the use of trialkyl thiophosphates [sic] as the synergist. [BO]

SUB CODE: 06/ SUBM DATE: 17Jul64

Card 1/1 *LC*

UDC: 632.951.2.547.419.1

L 05185-67 EWT(m)/EMP(j) RM
ACC NR: AF7000739

SOURCE CODE: UR/0079/66/036/005/0857/0860

ZAKS, P. G., MANDEL'BAUM, Ya. A., MEL'NIKOV, N. N., IVANOV, V. V.,
All-Union Scientific Research Institute of Chemical Means of Plant Protection
(Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity
rasteniy)
"Interaction of Trialkylthiolphosphates with Salts of O,O-Dialkylthiophosphoric
Acid"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 5, 1966, pp 857-860

Abstract: Trialkylthiolphosphates were found to alkylate ammonium salts of O,O-dialkylthiophosphoric acids, forming the corresponding trialkylthiolphosphates and salts of O,S-dialkylthiophosphoric acids. The alkylation can be carried out with catalytic amounts of the trialkylthiolphosphates. In the alkylation of salts of dimethylthiophosphoric acid by various alkylating agents, such as esters, amides, and sulfamides of chloroacetic acid, the yield of alkylation products was very low in comparison with derivatives of other dialkylthiophosphoric acids. The cause of the low yield was found to be the high methylating ability of the products of this reaction, O,O-dimethyl-S-alkyl esters of thiophosphoric acid. The salts obtained are compared with the corresponding thione salts. Orig. art. has: 1 figure. [JPRS: 37,023]

TOPIC TAGS: alkylation, phosphate, organic phosphorus compound

SUB CODE: 07 / SUBM DATE: 07Apr65 / ORIG REF: 005 / OTH REF: 004

Card 1/1 vmb

VIGDORCHIK, N.A., zasluzhennyy deyatel' nauki, professor; ZAKS, R.A.,
nauchnyy sotrudnik

[Analysis of the incidence of disabling illnesses at Leningrad
industrial enterprises during recent years] Analiz zabolevaemosti
s poterei trudesposobnosti na promyshlennykh predpriyatiyakh
Leningrada za poslednie gody. Leningrad, Leningradskii institut
gigieny turda i professional'nykh zabolevaniy, 1946. 48 p.
[Microfilm] (MLRA 9:12)

(LENNINGRAD--MEDICAL STATISTICS)

ZAKS, R.A.
KOVRANSKIY, B.B., prof.; ZAKS, R.A.

Role of meteorological conditions of industrial premises in the
etiology of tonsillitis. Gig. i san. 23 no.2:34-39 P '58.

(MIRA 11:4)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta gigiyeny
truda i professional'nykh zabolevaniy.

(TONSILLITIS, etiol. & pathogen.

meteorol. cond. in indust. (Rus))

(CLIMATE, eff.

on tonsillitis in indust. (Rus))

KARPENKO, B.V.; BÉRDYSHEV, A.A.; ZAKS, R.B.; NOSKOVA, L.M.

Effect of indirect exchange interaction in the magnetism theory
of transition metals and rare earths. Part 2. Antiferromagnetism.
Fiz. met. i metalloved. 9 no. 4:481-487 Ap '60. (MIRA 14:5)

1. Ural'skiy gosudarstvennyy universitet im. A.M. Gor'kogo.
(Ferromagnetism)

24.2200

80211

S/126/60/009/04/001/033
E032/E435

AUTHORS: Karpenko, B.V., Berdyshev, A.A., Zaks, R.B. and
Noskova, L.M.

TITLE: The Role of Indirect Exchange Interaction in the Theory
of the Magnetism of Transition Metals and Rare Earths
II. Antiferromagnetism 1 1

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 4,
pp 481-487 (USSR)

ABSTRACT: In the previous paper (Ref 1) a study was made of the
indirect interaction between d-electrons in the
ferromagnetic problem. It was shown that the indirect
interaction between electrons in inner and incompletely
filled shells, in the atoms of transition metals and
rare earths, favours the formation of a ferromagnetic
state. In the present paper an estimate is made of the
role of indirect interaction in setting up antiferro-
magnetic order. The Hamiltonian for an antiferromagnetic,
according to the s-d exchange model put forward by
Vonsovskiy (Ref 2), is of the form shown on p 481
where a_k and $a_k(-)$ are the Fermi second quantization
operators for electrons with the momentum k and right

Card 1/4

4

80211

S/126/60/009/04/001/033

E032/E435

The Role of Indirect Exchange Interaction in the Theory of the Magnetism of Transition Metals and Rare Earths II. Antiferromagnetism

and left spin orientations respectively, S_n is the spin operator for the n-th lattice site, J is the d-b exchange integral for two nearest neighbors, I is the s-d exchange integral (assumed independent of the momentum of conduction electrons), V is the volume of the system, $E_k = Ak^2$ is the energy of a conduction electron, A is the transport integral (Ref 3) and $S = 1/2$. The spin operators can be related to the Bose operators by the two equations at the bottom of p 481 and top of p 482. The Hamiltonian obtained in this way is shown at the top of p 482 where z is the number of nearest neighbors for a given atom,

$$\gamma_\lambda = \frac{1}{z} \sum_{\mathbf{p}} e^{i\mathbf{p}\cdot\boldsymbol{\rho}_\lambda}$$

and $\boldsymbol{\rho}$ is the radius vector from the atom to its nearest neighbor atom. After diagonalization, the Hamiltonian can be thrown into the form shown at the bottom of p 482 where ϵ_λ and $g(\lambda)$ are defined by the

Card 2/4

80211

S/126/60/009/04/001/033

E032/E435

The Role of Indirect Exchange Interaction in the Theory of the
Magnetism of Transition Metals and Rare Earths II. Antiferromagnetism

relations at the bottom of p 482. The energy of the system in an external magnetic field, the free energy and the magnetization are then calculated in a way similar to that employed in the previous paper (Ref 1). It is shown that if the interaction of spin waves with conduction electrons is taken into account, then the interaction between d-electrons is characterized not by the d-d exchange integral but by a certain effective exchange integral J_{eff} which is given by Eq (6), in which ξ is the chemical potential of the conduction electrons. It follows from this equation that in the absence of direct d-d exchange interaction, the integral J_{eff} is negative, which means that the energy of the spin wave also becomes negative and an antiferromagnetic state cannot be reached. It is concluded that indirect exchange interaction in general favours ferromagnetism and this agrees with Zener's hypothesis. The electronic specific heat of transition metals is also affected by indirect interaction. The interaction of conduction electrons with spin waves in

Card 3/4

80211

S/126/60/009/04/001/033
E032/E435

The Role of Indirect Exchange Interaction in the Theory of the
Magnetism of Transition Metals and Rare Earths II. Antiferromagnetism

ferro and antiferromagnetics introduces an extra turn into the specific heat equation. It is suggested that by separating out the linear term in the experimental determination of the specific heat of a dilute alloy and by comparing it with the corresponding linear term in the specific heat equation for a pure metal, it may be possible to estimate the magnitude of the exchange integral I. There are 8 references, 2 of which are Soviet, 1 German in Russian translation and 5 English.

ASSOCIATION: Ural'skiy gosudarstvennyy universitet im. A.M. Gor'kogo
(Ural State University imeni A.M. Gor'kiy)

SUBMITTED: January 25, 1959

Card 4/4

OLESOVA, Tat'yana Shlemovna, inzh.; ZAKSON, R.I., nauchn. red.

[Technology of electric welding] Tekhnologiya elektricheskoj svarki. Moskva, TSentr. nauchno-issl. i inzh. patentnoi informatsii i tekhniko-ekon. issl., 1964. 43 p.
(MIRA 18:5)

ZAKS, S. I.

"Influence of Temperature on Petroleum Extraction
from Loose Sands During Gravitational Flow"

Iz. Ak. Nauk. SSSR. Otdel. Tekl. Nauk.
Nos. 10-11, 1944.

BR-52059019

ZAKS, C. L.

PA 9T69

USSR/Water, Underground
Petroleum - Well drilling

Apr 1947

"Underground Water and Its Significance for Oil
Recovery," C. L. Zaks, 5 pp

"Neftyanoye Khozyaystvo" Vol 25, No 4

Discusses the effectiveness of artificial flooding
in certain cases where there is subterranean water.

9T69

ZAKS, S. L.

PA 9T90

USSR/Petroleum - Prospecting
Water, Underground

Jun 1947

"The Selection and Testing of Core Samples on
Water and Oil Saturation," S. L. Zaks, 7 pp

"Neftyanoye Khozyaystvo" Vol 25, No 6

Methods for determining indirectly the quantity
of buried water. Methods of selecting core samples.
Determination of aqueous and oily constituents in
the laboratory (schematic diagrams of apparatus),
formulas.

9T90

ZAKS, S. L.

USSR/Engineering - Petroleum Deposits, Physical Processes

Nov 52

Physical State of Petroleum, Gas and Water Under Conditions of a Petroleum Bed," M. A. Kapelyushnikov, Corr Mem, Acad Sci USSR, T. P. Zhuze, S. L. Zaks

"Iz Ak Nauk SSSR Otdel Tekh Nauk" No 11, pp 1700-1710

Experimentally studies physical state of petroleum, gas and water under conditions of high pressures and comparatively low temps, and effect of petroleum-bearing rocks on this state, corroborating possibility of occurrence of petroleum and water in single-phase gaseous state. Discusses process of formation of bitumens in petroleum deposits.

PA 244T62

1. ZAKS, S. L.
 2. USSR (600)
 4. Petroleum - Geology
 7. Effect of rock and combined water on the intensity of pressure in the transition of the system petroleum - gas into a uniphase gaseous state. Dokl. AN SSSR 86 no. 5. '52.
9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

ZAKS, S. I.

ZAKS, S.I.; KREMS, A.Ya, redaktor; MURATOVA, V.M., redaktor; POLO-
SINA, A.S., tekhnicheskiiy redaktor.

[Principles of mining and of mine extraction of oil] Osnovy
gornogo dela i shakhtnoi dobychi nefi. Moskva, Gos. nauchno-
tekhn. izd-vo nefianoi i gorno-toplibnoi lit-ry, 1954. 357 p.
(Mining engineering) (Petroleum engineering) (MLRA 7:8)

ZAKS, S.L.

Vacuum apparatus for determining the air permeability of rocks.
Trudy Inst. nefti 3:240-247 '54. (MLRA 8:6)
(Permeability) (Vacuum apparatus) (Rocks)

USSR Engineering - Petroleum

FD-3017

Card 1/1 Pub. 41 - 1/15

Author : Zaks, S. L., Moscow

Title : Increasing petroleum extraction in a partially depleted reservoir by the high-pressure gas injection method

Periodical : Izv. AN SSSR, Otd. Tekh. Nauk 9, 3-13, Sep 55

Abstract : Examines the proposed method of injecting hydrocarbon gases under high pressure into partially depleted oil wells and then pumping out the resultant gaseous mixture. Describes experiments performed to determine if the petroleum strata and the water therein have any effect on the conversion of the petroleum - gas mixture to a single-phase gaseous state. Describes experimental set-up. Studies gaseous conversion for different types of petroleum. Diagrams, tables, graphs. Five references, 3 USSR.

Institution: Institute of Petroleum, Academy of Sciences USSR

Submitted : April 27, 1955

2AKS 572

Investigation of liquid hydrocarbon filtration through porous medium containing water. S. L. Zaks and M. M. Kusakov. *Izvest. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1955, No. 11, 87-94. —An attempt is made to det. the effects of bound water in the porous medium on the filtration rates of mixts. of medicinal mineral oil and nonpolar ligroine, with addns. of naphthenic acids. The bound water occupied a total of 20-25% of the pore vol. and was bound by mol. forces with the solid phase surface, remaining stationary during the migration of the oil through the pores. The higher the naphthenic acid concn., the greater was the reduction of filtration rate of the hydrocarbon oils. The relative permeability through a porous medium is reduced by the water present, and with low naphthenic acid content is reduced chiefly because of the existence of the stationary water. The effect of the bound water must be taken into consideration in the hydrodynamic computations of the oil recovery when the water content exceeds 10% of the total pore space.

W. M. Sternberg

①

ZAKS, S.L.

3203. MIGRATION AND ACCUMULATION OF PETROLEUM. Zaks, S.L. (Dokl. Akad. Nauk SSSR (Rep. Acad. Sci. U.S.S.R.), 11 Nov. 1955, Vol. 105, (2), 332-332 FU.
 3397. Experiments are reported in which sand saturated with 0.5 to 6% petroleum was placed in a vessel and compressed carbon dioxide was pumped through it at 100 to 1,000 psi. The gas was collected in a separation vessel and the sand was dried. The sand was then extracted with the lighter fractions were extracted from the sand in this way first and the heavier fractions were extracted with carbon disulfide. The sand was then extracted with 7 to 10% of heavier petroleum. The results were similar, but the percentage extraction was only 20 to 30 against 70 to 80. The experiments were repeated with sand saturated with 0.5 to 6% petroleum and the results were similar.

22.00.00

GRIGORYAN, Grigoriy Markovich, doktor tekhnicheskikh nauk; ALEKSIN, Aleksandr Georgiyevich, inzhener; ZAKS, Saveliy L'yovich, kandidat tekhnicheskikh nauk; KUZIN, Mikhail Ivanovich, inzhener; POLOZKOV, Vladimir Tikhonovich, kandidat tekhnicheskikh nauk; SUKHANOV, Vasilii Pavlovich, inzhener; SUITANOV, D.K., inzhener; STREL'CHUK, Nikolay Antonovich, inzhener; CHERNYAK, Il'ya L'yovich, inzhener; KUSHNILEV, V.P., retsenzent; ROYZEN, I.S., otvetstvennyy redaktor; ZAMARAYEVA, K.M., vedushchiy redaktor; KOVALEVA, A.A., vedushchiy redaktor; SAVINA, Z.A., vedushchiy redaktor; TROFIMOV, A.V., tekhnicheskii redaktor

[Safety engineering and fire prevention in the petroleum industry]
Tekhnika bezopasnosti i protivopozharnaya tekhnika v neftianoi
promyshlennosti. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gornotoplivnoi lit-ry, 1956. 508 p. (MLRA 10:1)
(Petroleum industry--Safety measures)
(Fire prevention)

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963620016-7

ZAKS S.L.

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963620016-7"

Potential hydrocarbon seepage from argillaceous rocks by
Kopet Dagh mountains

Kapetvinsky, A. I., Laks, V. M., Gerasimov, N. P.
Moscow State Univ. Press, Moscow, U.S.S.R.

Translated by S. J. ...